AMENDMENTS TO THE CLAIMS

Claim 1 (Currently Amended) A channel-estimating apparatus comprising:

an input unit operable to receive several pieces of channel information from a plurality of receivers including a first receiver and a second receiver, wherein:

the first receiver performs a MIMO communication with a first transmitter through a first channel;

the second receiver performs the MIMO communication with a second transmitter other than the first transmitter though a second channel other than the first channel;

the first receiver receives signals from the second transmitter through a third channel other than the first channel; and

the second receiver receives signals from the first transmitter through a fourth channel other than the second channel; ~~said plurality of receivers being operable to perform MIMO communication through a plurality of channels;~~

an estimating unit operable to collectively estimate statuses of ~~the~~ a plurality of channels including the first, second, third and fourth channels, the estimating unit collectively estimating the statuses in accordance with the several pieces of channel information received by the ~~said~~ input unit, whereby estimation results are generated; and

an output unit operable to output ~~feed~~ the estimation results ~~into said~~ to the plurality of receivers.

Claim 2 (Currently Amended) The~~A~~ channel-estimating apparatus as defined in claim 1, wherein each of the ~~said~~ plurality of receivers includes ~~comprises~~ a plurality of antennas and a plurality of receiving units, each of ~~said~~ the plurality of receiving units being connected to a

corresponding antenna ~~one~~ of ~~said~~ the plurality of antennas, and wherein ~~each of~~ the several pieces of channel information represent ~~is~~ received electrical power of a signal received by each of ~~said~~ the plurality of receiving units.

Claim 3 (Currently Amended) The~~A~~ channel-estimating apparatus as defined in claim 2, wherein ~~said~~ the estimating unit divides the received electrical power of the signal received by each of the plurality of receiving units by a ~~each~~ predetermined electrical power value, to thereby generate ~~thereby generating~~ the estimation results.

Claim 4 (Currently Amended) The~~A~~ channel-estimating apparatus as defined in claim 1, wherein ~~said~~ the estimating unit generates the estimation results for all of the plurality of channels.

Claim 5 (Currently Amended) The~~A~~ channel-estimating apparatus as defined in claim 4, wherein the generated estimation results include individual pieces of estimation results, a number of the individual pieces of estimation results being the same as ~~are a combination of~~ a number of channels of the plurality of channels ~~as many pieces of estimation results as the plurality of channels~~.

Claim 6 (Currently Amended) The~~A~~ channel-estimating apparatus as defined in claim 2, wherein each of ~~said~~ the plurality of receiving units possesses weighting coefficients for use in weighting the received electrical power, and wherein ~~said~~ the estimating unit generates

coefficients as the estimation results, the coefficients generated by the estimating unit ~~being~~ corresponding to the weighting coefficients.

Claim 7 (Currently Amended) The~~A~~ channel-estimating apparatus as defined in claim 6, wherein ~~said~~ the output unit outputs ~~feeds~~ a coefficient set ~~into said~~ to the plurality of receivers, the coefficient set including the coefficients generated by the estimating unit.

Claim 8 (Currently Amended) The~~A~~ channel-estimating apparatus as defined in claim 7, wherein the coefficients included in the coefficient set correspond in number to all of ~~said~~ the plurality of antennas possessed by ~~said~~ all of the plurality of receivers.

Claim 9 (Currently Amended) MIMO communication-adapted communication equipment, comprising:

an input unit operable to receive several pieces of channel information from a plurality of receivers including a first receiver and a second receiver, wherein:

the first receiver performs a MIMO communication with a first transmitter through a first channel;

the second receiver performs the MIMO communication with a second transmitter other than the first transmitter though a second channel other than the first channel;

the first receiver receives signals from the second transmitter through a third channel other than the first channel; and

the second receiver receives signals from the first transmitter through a fourth channel other than the second channel;

~~, said plurality of receivers being operable to perform MIMO communication through a plurality of channels;~~

an estimating unit operable to collectively estimate statuses of ~~the~~ a plurality of channels including the first, second, third and fourth channels, the estimating unit collectively estimating the statuses in accordance with the several pieces of channel information received by the ~~said~~ input unit, whereby estimation results are generated; and

an output unit operable to output ~~feed~~ the estimation results ~~into~~ to the ~~said~~ plurality of receivers.

Claim 10 (Currently Amended) A communication system comprising:

a plurality of receivers including a first receiver and a second receiver, wherein:

the first receiver performs a MIMO communication with a first transmitter through a first channel;

the second receiver performs the MIMO communication with a second transmitter other than the first transmitter though a second channel other than the first channel;

the first receiver receives signals from the second transmitter through a third channel other than the first channel; and

the second receiver receives signals from the first transmitter through a fourth channel other than the second channel; and

~~operable to provide MIMO communication through a plurality of channels; and~~

a channel-estimating apparatus operable to estimate statuses of ~~the~~ a plurality of channels including the first, second, third and fourth channels,

wherein ~~said~~ the channel-estimating apparatus includes:

an input unit operable to receive several pieces of channel information from ~~said~~ the plurality of receivers;

an estimating unit operable to collectively estimate the statuses of the plurality of channels in accordance with the several pieces of channel information received by ~~said~~ the input unit, whereby estimation results are generated; and

an output unit operable to output ~~feed~~ the estimation results ~~into said~~ to the plurality of receivers.

Claim 11 (Currently Amended) The~~A~~ communication system as defined in claim 10, wherein each of ~~said~~ the plurality of receivers includes a plurality of antennas and a plurality of receiving units, each of ~~said~~ the plurality of receiving units being connected to a corresponding antenna ~~one~~ of ~~said~~ the plurality of antennas, and wherein ~~each of~~ the several pieces of channel information represent ~~is~~ received electrical power of a signal received by each of ~~said~~ the plurality of receiving units.

Claim 12 (Currently Amended) The~~A~~ communication system as defined in claim 11, wherein ~~said~~ the estimating unit divides the received electrical power of the signal received by each of the plurality of receiving units by ~~each~~ a predetermined electrical power value, to thereby generate ~~generating~~ the estimation results.

Claim 13 (Currently Amended) The~~A~~ communication system as defined in claim 10, wherein ~~said~~ the estimating unit generates the estimation results for all of the plurality of channels.

Claim 14 (Currently Amended) The~~A~~ communication system as defined in claim 13, wherein the generated estimation results include individual pieces of estimation results, a number of the individual pieces of estimation results being the same as ~~are a combination of~~ a number of channels of the plurality of channels ~~as many pieces of estimation results as the plurality of channels~~.

Claim 15 (Currently Amended) The~~A~~ communication system as defined in claim 11, wherein each of ~~said~~ the plurality of receiving units possesses weighting coefficients for use in weighting the received electrical power, and wherein ~~said~~ the estimating unit generates coefficients as the estimation results, the coefficients generated by the estimating unit ~~being~~ corresponding to the weighting coefficients.

Claim 16 (Currently Amended) The~~A~~ communication system as defined in claim 15, wherein ~~said~~ the output unit outputs ~~feeds~~ a coefficient set ~~into said~~ to the plurality of receivers, the coefficient set including the coefficients generated by the estimating unit.

Claim 17 (Currently Amended) The~~A~~ communication system as defined in claim 16, wherein the coefficients included in the coefficient set correspond in number to all of ~~said~~ the plurality of antennas possessed by ~~said~~ all of the plurality of receivers.

Claim 18 (Currently Amended) The~~A~~ communication system as defined in claim 10, wherein the MIMO communication is made through antennas possessed by at least two receivers of ~~among said~~ the plurality of receivers.